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| EXAMINER |
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DEXTER, CLARK F

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| ART UNIT | PAPER NUMBER |
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3724

DATE MAILED: 12/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |   |  |
|------------------------------|--------------------------------------|---|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/780,323 | <b>Applicant(s)</b><br>SZYMANSKI, DAVID |  |
|                              | <b>Examiner</b><br>Clark F. Dexter   | <b>Art Unit</b><br>3724                 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 11,17,21,22,25-27,29 and 30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10,12-16,18-20,23,24 and 28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. The amendment filed on October 25, 2006 has been entered.

#### ***Election/Restrictions***

2. Newly added claims 27, 29 and 30 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention (Group II). Election was made **without** traverse in the reply filed on July 17, 2006.

#### ***Claim Objections***

3. Claim 28 is objected to because of the following informalities:

In claim 28, the recitations "in the direction of chain travel" are not sufficiently clear since they attempt to positively define the invention in terms of the saw chain and an intended use of the device, wherein the saw chain is not part of the claimed invention (as evidenced by claim 13).

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Rejections Over Wright:

5. Claims 1-3 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Wright, pn 4,744,278.

Regarding claim 1, Wright discloses a device with every structural limitation of the claimed invention including:

a base member (e.g., 52) adapted to be pivotally connected to other links of the saw chain, said base member comprising a seat surface having a first taper (e.g., the upper surface of 65 as viewed in Fig 7); and

a cutting member (e.g., 54) that comprises a cutting edge and releasably engages said base member, said cutting member including a surface having a second taper, wherein said first taper and said second taper extend at an angle ranging from about 0.5 to about 45 degrees relative to a direction of chain travel at a close tolerance effective to cause self-locking engagement of said first taper of said seat surface and said second taper of said cutting member surface;

[claim 2] wherein said close tolerance is characterized by variation in said angle being not more than about 10 degrees (as best understood);

[claim 3] wherein said close tolerance is characterized by variation in said angle being not more than 0.5 degrees (as best understood);

[claim 12] wherein at least one of said cutting member and said base member comprises a water-resistant material applied by a process selected from the group consisting of steam treatment, resin infiltration, copper infiltration and loctite infiltration (e.g., the base material in Wright is disclosed as "investment case of hard, high strength

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steel” which is a water-resistant material, and because the product is disclosed, the process by which the product is made is not critical).

Rejections Over Raetz:

6. Claims 1-3 and 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Raetz, pn 3,547,167.

Regarding claim 1, Raetz discloses a device with every structural limitation of the claimed invention including:

a base member (e.g., 6, 7) adapted to be pivotally connected to other links of the saw chain, said base member comprising a seat surface (e.g., 7 including surfaces 18, 19; see also col. 3, lines 36-37) having a first taper; and

a cutting member (e.g., 9) that comprises a cutting edge and releasably engages said base member, said cutting member including a surface having a second taper, wherein said first taper and said second taper extend at an angle ranging from about 0.5 degrees to about 45 degrees relative to a direction of chain travel at a close tolerance effective to cause self-locking engagement of said first taper of said seat surface and said second taper of said cutting member surface;

[claim 2] wherein said close tolerance is characterized by variation in said angle being not more than about 10 degrees (as best understood);

[claim 3] wherein said close tolerance is characterized by variation in said angle being not more than 0.5 degrees (as best understood).

Regarding claim 13, Raetz discloses a device with every structural limitation of the claimed invention including:

a saw chain comprising a plurality of the quick change cutting links of claim 1;  
[claim 14] wherein said saw chain is adapted for use on a saw comprising a chain saw, a timber harvester, a buck saw and a saw for cutting wood pallets.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Raetz, pn 3,547,167.

Raetz discloses a device with almost every structural limitation of the claimed invention as described above, wherein the first taper tapers in the direction of chain travel and the second taper tapers in the direction of chain travel (e.g., see col. 3, lines 36-37). However, Raetz is silent as to the specific angles of taper. However, to provide the specific angles of taper would be the mere discovery of the optimum or workable ranges within the general conditions of the prior art by routine experimentation and therefore obvious to one having ordinary skill in the art.

9. Claims 4-10, 15, 16, 18, 19, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over one of Wright, pn 4,744,278 or Raetz, pn 3,547,167 in view of

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Funakubo, pn 3,800,633, any one of Ackley, pn 2,725,083 or Abbott, pn 2,873,775 or Oehrli, pn 3,144,059 or Ehlen, pn 3,308,859 or Carlton, pn 4,901,613, and any one of Dawson, pn 3,023,490 or Gaddis et al., pn 4,750,396.

Wright and Raetz, each taken separately, discloses almost every structural limitation of the claimed invention as described above, but each lacks the specific material designations for each of the base member and the cutter member, as follows:

Each lacks the device

[claim 4] wherein said cutting member comprises sintered and compacted particles of abrasion resistant material;

[claim 5] wherein said base member comprises stamped metal.

[claim 6] wherein said base member comprises sintered and compacted particles of abrasion resistant material;

[claim 7] wherein said abrasion resistant material comprises at least one of metal and ceramic;

[claim 8] wherein said abrasion resistant material comprises a carbide containing compound;

[claim 9] wherein said carbide containing compound comprises a compound selected from the group consisting of tungsten carbide, silicon carbide, tantalum carbide and aluminum carbide;

[claim 10] herein said abrasion resistant material comprises a tool steel alloy;

[claim 15] wherein said cutting member consists essentially of sintered and compacted particles of abrasion resistant material;

[claim 16] wherein said cutting member consists essentially of sintered and compacted particles of abrasion resistant material;

[claim 18] wherein said base member consists essentially of sintered and compacted particles of abrasion resistant material;

[claim 19] said cutting member comprises sintered and compacted particles of abrasion resistant material.

Regarding claims 4, 6-10, 15, 16, 18 and 19, it is respectfully submitted that the use of such material on cutting teeth is old and well known in the art. For example, Funakubo discloses one example of a disclosure that discusses many of the claimed materials (e.g., see col. 1, the paragraph beginning at line 6) including the materials set forth in the subject claims, and teaches that these materials have been used for their known benefits including improved durability and strength characteristics. Therefore, it would have been obvious to one having ordinary skill in the art to use the subject materials to make the cutters of Wright or Raetz for the well known benefits including those described above.

Regarding claims 5 and 10, the Examiner takes Official notice that such materials are old and well known in the art and provide various well known benefits including superior strength and durability. Regarding claim 5, Ackley (col. 2, lines 51-53), Abbott (col. 2, lines 9-11), Oehrli (col. 8, lines 43-44), Ehlen (col. 2, lines 41-43) and Carlton (col. 3, lines 60-61) each disclose examples of links having components made from stamped metal. Regarding claim 10, Dawson (e.g., see the claims, particularly claims 4 and 21) and Gaddis (see the abstract) each disclose examples of cutting members



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comprising tool alloy steel. Therefore, it would have been obvious to one having ordinary skill in the art to use the subject materials to make the cutters of Wright or Raetz for the well known benefits including those described above.

Regarding claims 23 and 24, both claims are clearly met by Wright and explicitly disclosed by Raetz in that:

said first taper and said second taper extend upwardly or downwardly from a location near said cutting edge in a direction opposite to said direction of chain travel; and said angle is about 10 degrees or less.

### ***Response to Arguments***

10. Applicant's arguments filed October 25, 2006 have been fully considered but they are not persuasive.

In the second paragraph on page 9 of the subject amendment, applicant argues that Wright does not disclose a saw chain. The Examiner respectfully submits that claim 1 does NOT require a chain saw. Rather, claim 1 is directed to a "quick-change link of a saw chain for cutting wood." While the Examiner concedes that the language "of a saw chain" could be interpreted either as including or not including the saw chain, the presence of claim 13 makes it clear that claim 1 is not intended to require the saw chain. Further, the language in the body of the claims does not positively recite a connection to the saw chain. Rather, it is only recited, for example, that the base member is "adapted to be pivotally connected." That is, the base member is formed, configured, or otherwise capable of being pivotally connected to the saw chain.

Further in the second paragraph on page 9 of the subject amendment, applicant argues that Wright does not disclose a saw chain having a base member adapted to be pivotally connected to other links of the saw chain. The Examiner respectfully disagrees with applicant's analysis. As stated above, the Examiner's position is that the claims do not require a saw chain. Additionally, the Examiner's position is that the base member of Wright includes pivot holes (e.g., 57) and therefore it is adapted to be pivotally connected to other structure.

Further in the second paragraph on page 9 of the subject amendment, applicant argues that Wright does not disclose a cutting element that engages a base member, particularly since the structure labeled as the base member by the Examiner is not at the bottom acting as a support. The Examiner respectfully disagrees with applicant's analysis. Clearly, based on how the saw of Wright is used, the base member (e.g., 60) will vary, and when the structure as shown in Figure 5 is inverted, the members 60 will clearly be on the bottom acting to support the cutting member.

In the paragraph bridging pages 9 and 10, applicant argues that Raetz does not meet the claimed invention because the angles of Raetz taper counter to the direction of travel of the chain. However, the Examiner respectfully submits that, unlike new claim 28, these claims do not specify a direction of taper, only that the angles taper relative to a direction of travel, which is clearly met by Raetz.

In the paragraph at the top of page 11, applicant's assumption regarding Funakubo is correct and it has been added to the heading of the prior art rejection as was clearly intended.

Regarding applicant's request in the last paragraph on page 11 of the subject amendment, applicant is directed to the paragraph in col. 1, beginning at line 6, and more particularly to lines 14-21.

Regarding applicant's arguments in the third paragraph on page 13 of the subject amendment, the Examiner respectfully disagrees with applicant's analysis and submits that as described in response to the previous arguments, these claims are still met by the prior art.

Regarding applicant's request in the second paragraph on page 14 of the subject amendment, the Examiner respectfully submits that a reference has been provided.

In the fourth paragraph on page 14 of the response, explicit language has now been provided as to how the prior art meets the limitations of claims 23 and 24. This application of the prior art was considered to be clear and an explicit explanation is being provided in response to applicant's request.

For at least the above reasons, it is respectfully submitted that the prior art teaches and/or fairly suggests the claimed invention and the prior art rejections must be maintained.

### ***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clark F. Dexter whose telephone number is (571)272-4505. The examiner can normally be reached on Mondays, Tuesdays, Thursdays and Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer D. Ashley can be reached on (571)272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



**Clark F. Dexter**  
**Primary Examiner**  
**Art Unit 3724**

cf  
December 7, 2006